



## A framework for assessing climate change impacts on water and watershed systems

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### Abstract:

In this article we present a framework for assessing climate change impacts on water and watershed systems to support management decision-making. The framework addresses three issues complicating assessments of climate change impacts--linkages across spatial scales, linkages across temporal scales, and linkages across scientific and management disciplines. A major theme underlying the framework is that, due to current limitations in modeling capabilities, assessing and responding to climate change should be approached from the perspective of risk assessment and management rather than as a prediction problem. The framework is based generally on ecological risk assessment and similar approaches. A second theme underlying the framework is the need for close collaboration among climate scientists, scientists interested in assessing impacts, and resource managers and decision makers. A case study illustrating an application of the framework is also presented that provides a specific, practical example of how the framework was used to assess the impacts of climate change on water quality in a mid-Atlantic, U.S., watershed.

**Source:** <http://dx.doi.org/10.1007/s00267-008-9205-4>

### Resource Description

#### Communication:

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

#### Communication Audience:

audience to whom the resource is directed

Policymaker, Researcher

**Other Communication Audience:** Resource managers

#### Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes, Food/Water Quality

**Food/Water Quality:** Chemical

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## **Geographic Feature:**

resource focuses on specific type of geography

Freshwater

## **Geographic Location:**

resource focuses on specific location

United States

## **Health Impact:**

specification of health effect or disease related to climate change exposure

Infectious Disease

**Infectious Disease:** Foodborne/Waterborne Disease

**Foodborne/Waterborne Disease:** General Foodborne/Waterborne Disease

## **Intervention:**

strategy to prepare for or reduce the impact of climate change on health

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## **Mitigation/Adaptation:**

mitigation or adaptation strategy is a focus of resource

Adaptation

## **Model/Methodology:**

type of model used or methodology development is a focus of resource

Exposure Change Prediction

## **Resource Type:**

format or standard characteristic of resource

Policy/Opinion, Research Article, Research Article

## **Resilience:**

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

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## **Timescale:**

time period studied

Long-Term (>50 years)

## **Vulnerability/Impact Assessment:**

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

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